

Water Spouts.—Punta Rassa, Fla., 5th, 4.30 p. m., a large water spout formed over the Gulf, apparently at a distance of about 8 miles from station. In appearance it resembled a long, crooked, leaden-colored pipe or hose, extending upward from a base of whirling spray to a mass of cumulo-stratus clouds. It remained nearly stationary, the trunk at times being bent and swayed about by the wind. The phenomenon was visible for about five minutes.

Drought.—Los Angeles, Cal., 24th, farmers apprehend drought; rainy season very backward and the usual water-supply very low. Weldon, N. C., 31st, wells have not yet recovered from the effects of the late drought.

Low Tides.—Life-saving Station, No. 6, N. C., 31st, during almost the entire month, the tide in the Sound has been so low that navigation was seriously affected; this unusual state of the tide was probably due to numerous northerly gales.

High Tides.—New Westminster, B. C., 23rd, very high, flats flooded. Port Eads, La., 19th.

TEMPERATURE OF WATER.

The temperature of water, as observed in rivers and harbors at Signal Service stations, with the average depth at which observations were taken, is given in the table on the left hand side of chart No. III. Observations made at Chincoteague and Portland, Me., came too late for publication.

ATMOSPHERIC ELECTRICITY.

Auroras.—The auroral displays during the month of December, 1881, were quite numerous, but none of them are characterized as unusually brilliant. The display of the 18th at Augusta, Ga., is perhaps the most remarkable, owing to its extreme southern latitude. The observer at that station reports the first appearance of the aurora as occurring at 7 p. m., in the northwest horizon; color, faint rose of a diffuse light, with an altitude of 15° and an azimuth of 40°; disappeared at 7.10 p. m. At 10.41 p. m. it reappeared, lasting about 15 minutes, but the color had apparently changed to a pale yellow. The following are general displays of considerable extent: The display of the 8th was witnessed from Eastport, Me., westward to Fort Buford, Dak., the following intervening stations reporting. Eastport, 6.30 to 9 p. m.; Cornish, Me., 6 to 8 p. m.; Gardiner, Me., 6.30 to 9 p. m.; Orono, Me., 7 p. m.; Dexter, Me., 6.30 to 8 p. m.; Newport, Vt., 7 p. m.; Williamstown, Mass., 7 to 9 p. m.; Fall River, Mass., 7 p. m.; New Corydon, Ind., during the night, with streamers reaching an altitude of 20°; Marquette, 6.30 to 7 p. m.; Franklin, Wis., 7 p. m.; Duluth, 6.30 to 7.45 p. m.; Northfield, Minn., 7 p. m.; Morrison, Ill., 7 p. m.; St. Vincent, Minn., 6.30 to 7.30 p. m.; Fort Buford, Dak., 10.30 p. m. The display of the 9th and 10th was probably a continuation of the 8th, as at several stations it was observed throughout the night. Portland, Me., 10th, 7 to 9 p. m.; Cornish, Me., 10th, 7 p. m.; Gardiner, Me., 10th, 7 to 9 p. m.; Harvard College, Cambridge, Mass., 10th, 6 p. m.; Williamstown, Mass., 10th, 9 p. m.; Fall River, 10th, 7 p. m.; Newport, Vt., 10th, 7 p. m.; Woodstock, Vt., 10th, 7 p. m.; Southington, Conn., 9th, 8 p. m., with streamers; New Corydon, Ind., 9th, during the night; Lansing, Mich., 10th, 7 p. m.; Fort Stevenson, Dak., 10th, 7.30 to 10.30 p. m.; Bismarck, 9th, 8 p. m. The most general display of the month was that of the 23d, the line of observation reaching from New Brunswick westward to Idaho; the following intervening stations reporting: Gardiner, Me., visible about midnight; Mt. Washington, 7.22 to 11 p. m.; Williamstown, Mass., 9 p. m.; Southington, Conn., 10.30 p. m.; Ardenia, N. Y., 8 p. m.; Waterburg, N. Y., 9 p. m.; Wellsboro, Pa., 8.30 p. m.; Washington, D. C., 8.15 to 9 p. m.; Rochester, 6.45 to 11.55 p. m.; Buffalo, 7 to 10 p. m.; Erie, 6.50 to 7.20 p. m.; Jacksonburg, O., 7 p. m.; Bellefontaine, O., 6.30 to 7.40 p. m.; North Lewisburg, O., 8 p. m.; Ruggles, O., 8 to 9 p. m.; Lansing, Mich., 7 p. m.; Litchfield, Mich., 8 p. m.; Thornville, Mich., 7 p. m.; Detroit, 10 p. m., to morning of 24th; Alpena, 5.30 p. m., to morning of 24th; Grand Haven, 7 to 10 p. m.; Escanaba, 6 to 11 p. m.; Marquette, 6.35 to 10.30 p. m.; Northfield, Minn., 8 p. m.; Duluth, 6.30 to 9.30 p. m.; Beloit, Wis., 7.30 p. m.; Manitowoc, Wis., 8 p. m.; Franklin, Wis., 8 p. m., very brilliant; St. Paul, 8 p. m.; Riley, Ill., 7 to 10.30 p. m.; Cresco, Ia., 7 to 9 p. m.; Fort Madison, Ia., 7.30 p. m.; Guttenburg, Ia., 7 to 9 p. m.; Monticello, Ia., 8 p. m.; Muscatine, Ia., 9 p. m.; Dana, Ia., 8.30 p. m.; Clear Creek, Neb., 8.30 p. m.; Morriston, Dak., 7 p. m.; St. Vincent, Minn., 6 p. m. to midnight; Fort Bennett, Dak., 8.30 p. m.; Bismarck, 6 p. m. to morning of 24th; Ft. Stevenson, Dak., 8 p. m. to morning of 24th; Ft. Assinaboine, Mont., 6 p. m. to morning of 24th. Throughout the Northwest this display appeared to commence on the 20th and 21st, as follows: Ft. Assinaboine, Mont., 20th, 9 p. m. to morning of 21st; 22d, 7 p. m. to morning of 23d; Ft. Stevenson, Dak., 22d 9 p. m. to morning of 23d; St. Vincent, Minn., 7 p. m. to morning of 23d. The display of the 24th and 25th was probably a continuation of the 23d. Eastport, 24th, 7.40 p. m., to midnight; Gardiner, Me., 24th, 8 to 10 p. m.; Harvard College, Cambridge, Mass., 25th, 10.30 p. m.; Dyberry, Pa., 24th, 9 p. m.; Oswego, 24th, 10.45 to 11.50 p. m.; Rochester, 9 to 11.45 p. m.; Buffalo, 10.45 to 11.10 p. m.; Grand Haven, 24th, 8 p. m. to morning of 25th; Alpena, 24th, 7.30 to 11.15 p. m.; Northport, Mich., 24th, 10.25 p. m.; Escanaba, 24th, 8 to 11.30 p. m.; Marquette, 24th, 10.30 to 11.30 p. m.; Cresco, Ia., 24th, 10 p. m.; Monticello, Ia., 24th, 10.30 p. m.; Northfield, Minn., 24th, 10 p. m.; Fort Snelling, Minn., 25th, 8 p.,